



CARGO SWEEPING ON THE GREAT LAKES: Balancing Environmental Protection, Safety, and Economics

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BACKGROUND

"Cargo sweeping" is the term applied to the practice of removing the residues of dry bulk cargoes¹ from the deck and holds of a cargo vessel. Such residues occur after most loading or unloading operations. Residues must be cleaned-up for crew safety as well as for assuring that new cargoes don't become contaminated with residues from previous cargoes. Cleanup is accomplished by washing the decks and cargo spaces with water, which is then discharged over the side, usually while underway. This practice has been common in the Great Lakes for over 70 years.

The United States signed Annex V to the International Convention for the Prevention of Pollution from Ships in 1988 (MARPOL V). The legislation enacted by Congress to implement MARPOL V took the form of amendments to the Act to Prevent Pollution from Ships, 33 USC 1901 et seq. This legislation did two things: it made all US vessels subject to the international convention while at sea; it also made the international convention applicable to all navigable waters of the United States, including the Great Lakes. Under MARPOL V cargo residues are considered "garbage" since they are defined as "operational waste" by the International Maritime Organization.

THE PROBLEM

Coast Guard regulations (33 CFR Part 151) promulgated in 1989, interpreted MARPOL V to require that the discharge of all forms of garbage, including cargo residues, be prohibited anywhere in the internal waters of the United States, regardless of distance from shore. Under these regulations cargo sweeping is illegal. The Lake Carriers Association immediately protested, stating that total enforcement of this ruling would, at worst, shut-down the U.S. fleet, and at best, lead to unsafe vessel operation practices and place the U.S. fleet at an economic disadvantage, since Canadian shipper's are not under such restrictions in Canadian waters. The waterborne shipping industry contributes hundreds of millions of dollars and tens of thousands of jobs to the U.S. economy. For example, a recent study by the University of Toledo revealed that Toledo port-related activities alone provide 5,000 jobs with a \$100 million payroll to the surrounding counties.

The Coast Guard studied the issue and in 1993 proposed an Interim Enforcement Policy that allows cargo sweeping to continue, but only in waters more than 12 miles from the nearest land, with the possibility of adjustments for cause (such as safety). It also requested assistance from NOAA's Great Lakes Environmental Research Laboratory (GLERL) to evaluate the interim policy from the environmental standpoint, and to help develop a scientific plan to assess the environmental implications of cargo sweeping and establish a scientific basis for a final ruling by the late 1990s. While Canada is also party to MARPOL, it has not ratified MARPOL V yet, so similar legislation has not been passed by Canada, and the Canadian Coast Guard does not have a legislative basis for implementing a similar enforcement policy. However, the Canadian Coast Guard is following the issue very closely.

STATUS

NOAA/GLERL established an Ad Hoc Scientific Steering Committee consisting of scientists from academia, the National Biological Survey, and its own staff. The Committee reviewed the Interim Policy and a written report with recommendations was provided in August, 1994. The Committee

findings recommended a loosening of the Coast Guard's proposed Interim Enforcement Policy for some commodities, based on available information and risk. A workshop was held during September, 1994 to identify and discuss the key/critical environmental issues and develop a scientific plan to answer those key issues. The workshop report is under preparation, but one important immediate result of the workshop was that a functional partnership has been established between the Coast Guard, the shipping industry, and the scientific community, based on the realization that they could work together towards a common goal of reasonable environmental protection without posing unreasonable or unfounded regulatory and economic burdens on the shipping industry. In addition, the Coast Guard, after review by members of the Steering Committee, has approved shipping industry requests for several low-risk (to the environment) exceptions to the Interim Enforcement Policy, pending development of additional appropriate environmental information over the next 5 years.

Some of the environmental questions in need of further information and/or answers are:

- which, if any, of the dry bulk cargoes are toxic or contain known toxic substances?
- if a material contains toxic substances, are they likely to be released in significant amounts to the waters or sediments of the Great Lakes via the cargo sweeping process?
- how do the inputs of substances of concern compare to other sources of input in the Great Lakes?
- are there detectable significant acute environmental impacts after cargo residues are washed overboard?
- are there detectable cargo residues in the sediments underlying shipping lanes, and what are/have been their impacts on the benthic environment?
- are there certain environmentally sensitive areas in the Great Lakes where cargo sweeping should be avoided, such as key fish spawning areas?

On the basis of the Committee Report and the workshop, the Coast Guard (Ninth District) has proposed amendments to the legislation that will give the Coast Guard a mandate to develop a balanced regulatory regime for the problem of cargo residues on the Great Lakes, to provide for temporary interim regulations for five years, and to authorize funding for appropriate research during the same five years.

Because of GLERL's recognized research capability and expertise relevant to many of these issues, GLERL will continue to play a major role by assisting both the Coast Guard and the shipping industry to obtain and understand the scientific information needed.

Contact: David F. Reid, Assistant to the Director
NOAA/GLERL
2205 Commonwealth Blvd.
Ann Arbor, MI 48105-1593
Voice: 313-741-2019
FAX: 313-741-2003
InterNet: reid@glerl.noaa.gov

¹ The primary dry bulk cargoes carried on the Great Lakes are:

Iron Ore and Iron Ore Pellets (Taconite)
Coal (Bituminous & Sub-Bituminous)
Coal and petroleum coke
Slag & Millscale
Cement

Potash and Fertilizers
Limestone, various forms
Sand and Gravel
Rock Salt
Clay & refractory materials